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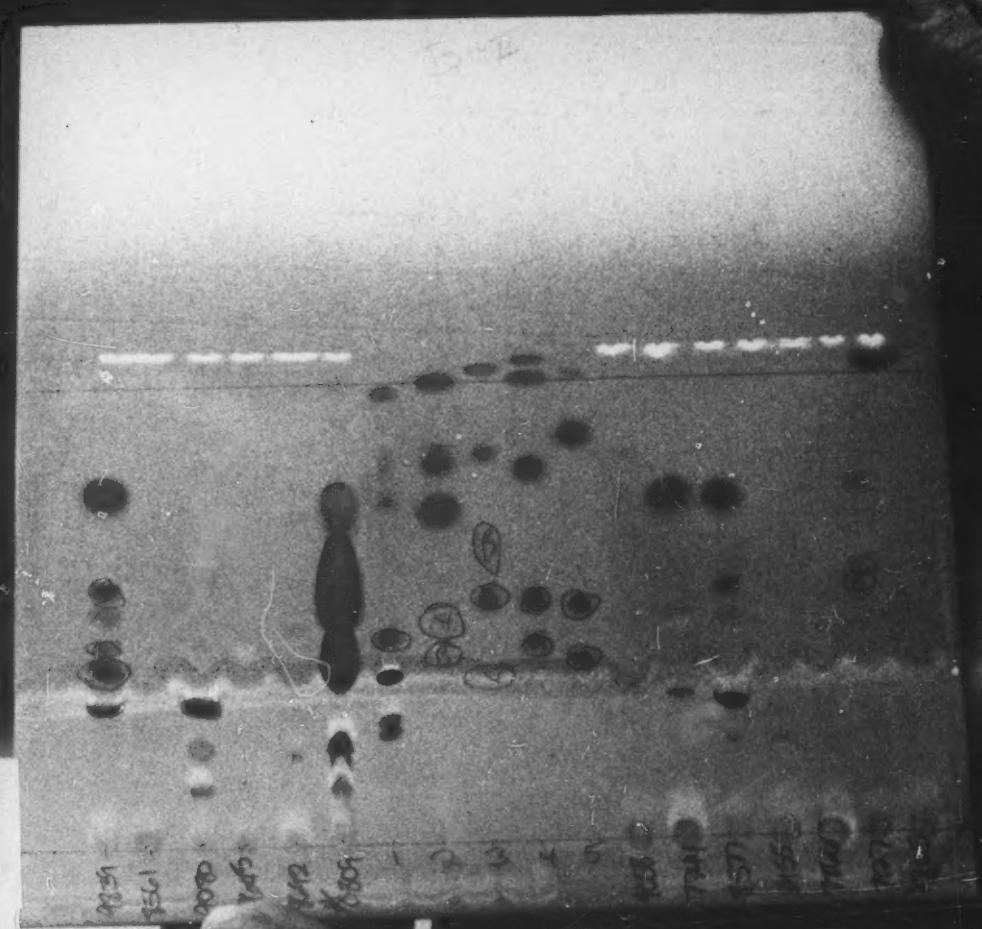
JUNE 2, 1986

CHEMICAL & ENGINEERING

NEWS



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Testing Employees For Illegal Drugs

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CHEMICAL & ENGINEERING
NEWS

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News of the Week

■ **Higher gasoline demand pushes up aromatics prices but price tags on olefins remain low.** **Page 4**

■ **High turnover rate of Presidential science advisers leads some to think that OSTP is of little concern to the Administration.** **Page 5**

■ **Concerns about research funding during the budget-cutting era expressed by scientists attending the AAAS meeting.** **Page 5**

■ **EPA nixes research burning of chemical wastes at sea.** **Page 6**

■ **Evidence for presence of seventh AIDS virus gene discovered by Boston researchers.** **Page 6**

Business

Product sales accounted for a bigger share of biotechnology firms' revenues in the first quarter; many publicly owned companies sold new issues of common stock, fattening bank balances. **Page 17**

Government

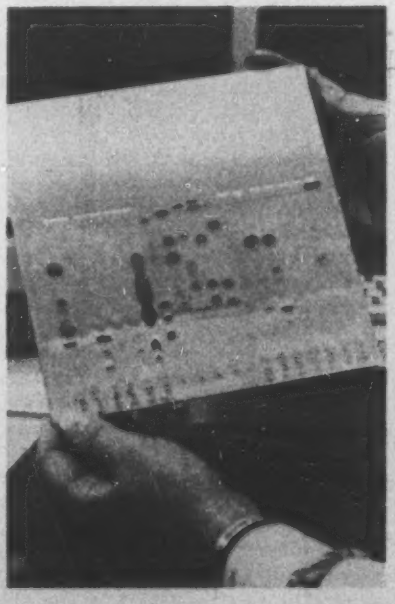
Congress-passed bill to strengthen Safe Drinking Water Act places emphasis on groundwater protection, calls for EPA to set maximum permissible levels for 83 water contaminants. **Page 20**

Science

Hypervalent organic polyhalogens prepared by reacting fluorinated carbanions with fluorinated organoiodine compounds. **Page 22**

Catalytic asymmetric epoxidation of allylic alcohols may speed up industrial use of the reaction to make optically pure intermediates for drugs and pheromones. **Page 24**

Cover: Thin-layer chromatogram used to detect illegal drugs in urine at American Medical Laboratories, Fairfax, Va. Photo by C&EN's David J. Hanson



News Focus

Although critics say the tests are inaccurate, and perhaps illegal, many companies are checking their employees for illicit drug use, using labs with sophisticated instrumentation. **Page 7**

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Product Sales Highlight First-Quarter Biotechnology Results

Biotechnology companies bring more products to market, bolster cash assets through secondary stock offerings

David Webber, C&EN New York

Biotechnology companies freshened their bank balances, negotiated more lucrative deals with large corporations, and recorded more substantial product sales in the first part of 1986. As a result, more firms reported net income during the first quarter, and others, though still recording deficits, managed to narrow their losses from what they were a year earlier. Many publicly owned biotechnology companies also took advantage of the vigorous performance of the stock market during this period to sell new issues of common stock, thus netting large amounts of cash.

The first quarter was a tremendously successful one for Genentech, South San Francisco, Calif., the industry pacesetter. Not only did total revenues increase 44% from last year's first quarter to $29 million, but sales rose to $7.3 million from zero the year before. Product sales accounted for 25% of total revenues in the quarter. Contract revenues rose 4% and interest revenues increased 72%. Net income swelled 145% to $1.8 million.

All the company's product sales came from Protropin human growth hormone, which had revenues of $5.2 million when the product was introduced in fourth-quarter 1985. The company is moving rapidly to bring other products to market. In April, Genentech submitted to the Food & Drug Administration a product license application (the biologic equivalent of a new drug application) for its Activase tissue plasminogen activator. Earlier, the British patent office issued the company a patent on the product. Genentech also has moved a second-generation version of Protropin into Phase II clinical trials.

Cetus, Emeryville, Calif., boosted earnings to $360,400 on $15 million in revenues, a 19% increase from the year-earlier quarter. Most of the gain was due to payments from Eastman Kodak, which formed a venture with Cetus to develop human diagnostic products. Product sales remain small: $435,000, just 3% of total revenues. The company, which is spending heavily on clinical trials for its Proleukin human recombinant interleukin-2, on testing of other products, and on developing generic anticancer products in a joint venture with Ben Venue Laboratories, bolstered its bank account with a public stock offering during the quarter. As a result, Cetus had cash and short-term investments worth about $130 million at the end of the quarter.

Amgen, Thousand Oaks, Calif., boosted revenues 105% to $6.9 million, recording a $205,000 net profit after a $1.7 million loss in the same quarter a year earlier. The quarter, the fourth in Amgen's fiscal year, was the third straight in which the company was profitable.

During the quarter, Amgen established commercial relationships with Eastman Kodak to develop specialty chemicals and with SmithKline Beckman to develop animal health care products. With Beckman, the company will jointly develop and commercialize porcine somatropin, a growth regulator in pigs. The two companies will share costs and profits.

More biotechnology firms report net income

	FIRST-QUARTER 1986[a]					
	Revenues[b] ($ millions)	Earnings[c] ($ millions)	Change from 1985 Revenues	Change from 1985 Earnings	Profit margin[d] 1986	Profit margin[d] 1985
Amgen	$ 6.869	$ 0.205	105%	nm	3.0%	def
Applied Biosystems	15.216	2.654	45	37%	17.4	18.5%
Biogen	3.822	−6.267	−21	def	def	def
Bio-Response	0.224	−1.442	−60	def	def	def
BioTechnica International	1.788	−0.921	62	def	def	def
California Biotechnology	3.244	−0.150	63	def	def	def
Centocor	7.300	1.153	63	356	15.8	5.6
Cetus	15.002	0.360	19	71	2.4	1.7
Damon Biotech	0.837	−2.788	24	def	def	def
DNA Plant Technology	1.307	−0.042	38	def	def	def
Genentech	29.042	1.753	44	145	6.0	3.5
Immunex	1.300	−0.847	113	def	def	def
Molecular Genetics	2.762	0.012	18	nm	0.4	def
Monoclonal Antibodies	2.552	0.181	67	def	7.1	def
Ribi ImmunoChem	0.394	−0.035	145	def	def	def

a For three-month period ending closest to March 31. b Includes sales, contract research, royalty, and interest revenues. c Excludes extraordinary credits and nonrecurring items. d After-tax income as a percentage of sales. def = deficit. nm = not meaningful.

Sales account for larger share of revenues in first quarter

	Product sales ($ millions)	% change from 1985	Sales as % of total revenues 1986	1985
Amgen	$ 0.31	241%	5%	3%
Applied Biosystems	13.41	43	88	90
Biogen	0.00	nm	0	0
Bio-Response	0.00	nm	0	0
BioTechnica International	0.00	nm	0	0
California Biotechnology	0.00	nm	0	0
Centocor	na	nm	nm	nm
Cetus	0.44	76	3	2
Damon Biotech	na	nm	nm	nm
DNA Plant Technology	0.00	nm	0	0
Genentech	7.31	nm	25	0
Immunex	0.00	nm	0	0
Molecular Genetics	0.52	−10	19	25
Monoclonal Antibodies	2.22	80	87	81
Ribi ImmunoChem	0.11	36	28	50

nm = not meaningful. na = not available.

Amgen also shored up its asset base through a private sale of $5 million in common stock to SmithKline Beckman and a public sale of $37 million in common stock. At the end of March, the company's current assets stood at $69.8 million, compared with $23.7 million at the close of fiscal 1985.

Centocor, Malvern, Pa., increased revenues 63% to $7.3 million and net income (before an extraordinary credit) 356% to $1.2 million. Earlier this month, FMC Corp. withdrew a lawsuit it had filed against Centocor that sought damages and an extension of a deadline on Centocor's offer to buy FMC's interest in Immunorex, a 50-50 joint venture of the two firms. The venture, under which Centocor recorded 21% of its 1985 revenues, has been developing a product to treat gram-negative bacterial infections and is carrying out other research in human monoclonal antibodies and immunoregulation. As allowed by the joint venture agreement, Centocor offered to buy FMC's stake in February. The two companies are expected to negotiate out of court.

Biogen, of Geneva, Switzerland, and Cambridge, Mass., which is refocusing its business plan and reshaping its staff, reported a decline of 21% in revenues to $3.8 million. The company lost $6.3 million in the quarter, compared with a $5 million deficit a year earlier. Biogen has been looking for more advantageous licensing arrangements and has been cutting costs since the arrival of its new chairman, James Vincent, earlier this year.

"The first-quarter results reflect our decision to seek licensing arrangements that take into account the higher added value of our products," Vincent says. "We anticipate this new licensing strategy will result in more positive financial performance during the second half of this year. Operating expenses, which are down from the fourth quarter of 1985, remain under tight control."

During the first quarter, Biogen received a West German patent on gamma interferon for the treatment of rheumatoid arthritis. In early tests, the substance exhibited good anti-inflammatory properties. Also in the first quarter, the U.K. approved the marketing of Biogen's Intron A alpha interferon. The product will be marketed by Biogen's licensee, Schering-Plough. Ten countries have approved the sale of Intron A for a variety of cancers and viral infections.

California Biotechnology, Mountain View, Calif., raised revenues 63% to $3.2 million in first-quarter 1986. The quarter's loss totaled $150,000, compared with a deficit of $109,000 the year before. R&D contract revenue increased 24% to $2.2 million, and interest rose 386% to more than $1 million. At the same time, the company greatly increased its spending on proprietary research to $1.2 million from just $327,000 in the comparable quarter a year earlier. Primarily for that reason, total costs and expenses jumped 78% to $3.7 million.

"During the remainder of 1986, we expect to close additional licensing agreements for Cal Bio products and increase interest income to offset these increased research expenditures, resulting in a profitable year," says William G. Baker Jr., chairman and chief executive officer.

The company's financial underpinnings have already been improved by the March 26 public sale of common stock, which netted the company $60.9 million. The receipts, which were not recorded in the first quarter, will greatly bolster California Biotechnology's balance of cash and marketables, which stood at $18.6 million at the close of the first quarter, down from $22 million 12 months earlier.

Molecular Genetics, Minnetonka, Minn., reported a small profit on an 18% increase in revenues. Research revenues grew 24%, thanks largely to the receipt of an advance royalty payment from Terra International. In March, Molecular Genetics formed a joint venture seed company with Terra to develop enhanced varieties of corn seed. Molecular Genetics continues to have trouble increasing sales of its monoclonal antibody for the treatment of calf scours because of the depressed farm economy. Product sales in the quarter totaled $518,968, down from $575,268 in the year-earlier period. The company, also seeking to cash in on the stock market's current love affair with biotechnology stocks, filed May 6 for an offering of 1.5 million shares of common stock.

Damon Biotech, Needham Heights, Mass., narrowed its loss in its second fiscal quarter, which ended Feb. 28, to $2.8 million from a deficit of $3 million in the comparable period in 1985 (both before a federal income tax benefit). Total revenues rose 24% to $837,584.

During the quarter, Damon Biotech netted $16 million in a secondary offering of its common stock. □